

CLAIMS

We claim:

1. A method implemented in a firewall for communicating information between programs employing different protocols, comprising communicating information between the programs by protocol translating the information between the different protocols.

2. The method according to claim 1, wherein one of the programs is in front of the firewall employing a stateless application level protocol, and another of the programs is behind the firewall employing a persistent application level protocol.

3. The method according to claim 2, further comprising establishing a persistent connection with the program behind the firewall before communicating information between the programs.

4. The method according to claim 3, further comprising communicating with the program in front of the firewall over the Internet, and communicating with the program behind the firewall over a local area network.

5. The method according to claim 4, wherein the program in front of the firewall resides on a client server.

6. The method according to claim 4, wherein the program behind the firewall resides on a web server protected by the firewall.

7. A method implemented in a firewall for communicating information between a first program employing a first application level protocol in front of the firewall, and a second program employing a persistent application level protocol behind the firewall, comprising:

establishing a persistent connection with the second program; and

communicating information between the first program and the second program by protocol translating the information between the first application level protocol and the persistent application level protocol.

8. The method according to claim 7, wherein the first application level protocol is a stateless application level protocol.

9. The method according to claim 8, wherein the stateless application level protocol is hypertext transfer protocol.

10. The method according to claim 7, wherein the persistent application level protocol is remote frame buffer protocol.

11. The method according to claim 7, wherein the establishing a persistent connection comprises opening a socket with the second program, and maintaining the socket open until communication between the first program and the second program terminates.

12. The method according to claim 7, further comprising receiving a request for information over the

Internet from the first program directed to the second program, before establishing the persistent connection with the second program.

13. The method according to claim 7, further comprising receiving a request for information from the second program directed to the first program, after establishing the persistent connection with the second program.

14. An apparatus in a firewall for communicating information between a first program employing a first application level protocol in front of the firewall, and a second program employing a persistent application level protocol behind the firewall, comprising a bastion host having a protocol proxy for establishing a persistent connection between the protocol proxy and the second program, and communicating information between the first program and the second program by protocol translating the information between the first application level protocol and the persistent application level protocol.

15. The apparatus according to claim 14, wherein the first application level protocol is a stateless application level protocol.

16. The apparatus according to claim 15, wherein the stateless application level protocol is hypertext transfer protocol.

17. The apparatus according to claim 14, wherein the persistent application level protocol is remote frame buffer protocol.

18. The apparatus according to claim 14, wherein the establishing a persistent connection comprises opening a socket with the second program, and maintaining the socket open until communication between the first program and the second program terminates.

19. The apparatus according to claim 14, wherein said bastion host further includes a packet filter, and said protocol proxy is further for cooperating with the packet filter to receive a request for information over the Internet from the first program directed to the second program, before establishing the persistent connection with the second program.

20. The apparatus according to claim 14, wherein said protocol proxy is further for receiving a request for information from the second program directed to the first program, after establishing the persistent connection with the second program.